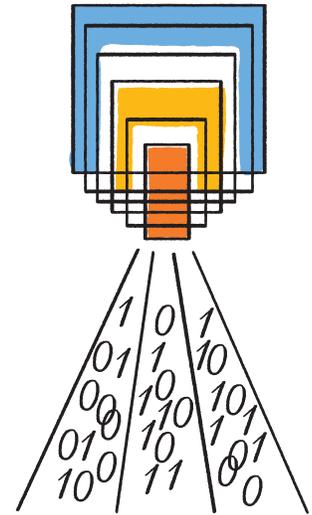




NetApp®

Datasheet

FlexCache Software



KEY BENEFITS

FlexCache® software supports sizzling-fast data delivery to your applications and scales I/O bandwidth for read-intensive NAS workloads.

Automated caching with the clustered Data ONTAP® architecture avoids unnecessary data duplication and reduces administration costs while accelerating data access to volumes using NFS v3/4 and SMB/CIFS 1.0/2.0/3.0 protocols.

FlexCache automatically caches hot data on local or remote FAS systems¹, increasing application throughput and reducing WAN latency to remote sites.

The Challenge

Enabling the right data to be on the right storage at the right time

Applications can be held back if the data they need isn't made available to them when and where they need it. Large computer farms are invaluable for a wide variety of applications, such as movie rendering, electronic design automation, seismic analysis, and financial simulations, but they also create complex challenges.

As administrators add servers to the farm in response to increasing processing demands, system throughput may actually decrease due to more intensive data demands, held hostage to the throughput of a single storage system.

The performance of shared data can also be an issue in a distributed global enterprise. Credit card processors, mobile phone carriers, online shopping sites, and other companies rely on complete replication so that important data is available in numerous locations. But full replication can cause application delays, disrupt workflows, and increase the risk that work is being performed or decisions are being made using stale information. It can also be expensive to implement and complex to manage.

The Solution

NetApp FlexCache

You can deploy NetApp® FlexCache software to scale storage performance without adding management complexity, shortening response times, and accelerating performance for large compute farms. FlexCache allows you to access high-touch data volumes in parallel with minimal data duplication, resulting in faster data access and increased worker productivity.

FlexCache software with clustered Data ONTAP creates a flexible, horizontally scalable caching layer within your infrastructure that increases performance by automatically adapting to changing usage patterns to eliminate bottlenecks. Enabling FlexCache software on existing FAS or V-Series systems running NFS v3/4/4.1 and SMB/CIFS 1.0/2.0/3.0 access protocols can increase the overall performance of your compute farm without adding management complexity.

Hot, Hot, Hot

With FlexCache software, hot data is replicated from origin volumes to FlexCache volumes on one or more nodes in the cluster without operator intervention and only as required. For instance, suppose that you have a repository that contains many large product design or multimedia files.

1. FlexCache storage systems used for remote site volume caching must run Data ONTAP 8 operating in 7-Mode using the NFSv3 protocol and can cache volumes either from another 7-Mode system or a clustered Data ONTAP system. Clustered Data ONTAP systems cannot be used to cache a volume that is provisioned in a different cluster that could be located at a different site.

It's impossible to know which files will be in high demand on a given day. FlexCache automatically caches the most frequently accessed files for quick access and maximum efficiency, without requiring you to constantly monitor and migrate files. As access patterns shift, older files time out of the cache and newly "hot" files take their place.

When servers or users request data, FlexCache serves it locally whenever possible, shortening storage response time and reducing the workload on the origin system. Full cache consistency and file locking enable the integrity of your data at all times. By distributing file access loads across numerous storage nodes or controllers within the cluster, FlexCache software makes it possible for you to scale the overall performance of your storage infrastructure without adding management complexity.

Lower Your Infrastructure Costs

Automated caching can greatly reduce storage administration and communications costs by automatically caching active data on several storage systems in the cluster. Competing storage arrays need active management, challenging your staff to move the right data to the right storage at the right time. Analyzing data usage and migrating data across storage nodes can easily become a full-time job for your staff, preventing them from adding value to your organization.

NetApp can help you improve performance and lower storage costs when read performance is a critical factor. FlexCache software makes it easy to implement a storage architecture in which active data is automatically cached across the cluster as determined by actual usage. Your users enjoy speedy access to data while your storage administrators can work on more important tasks.

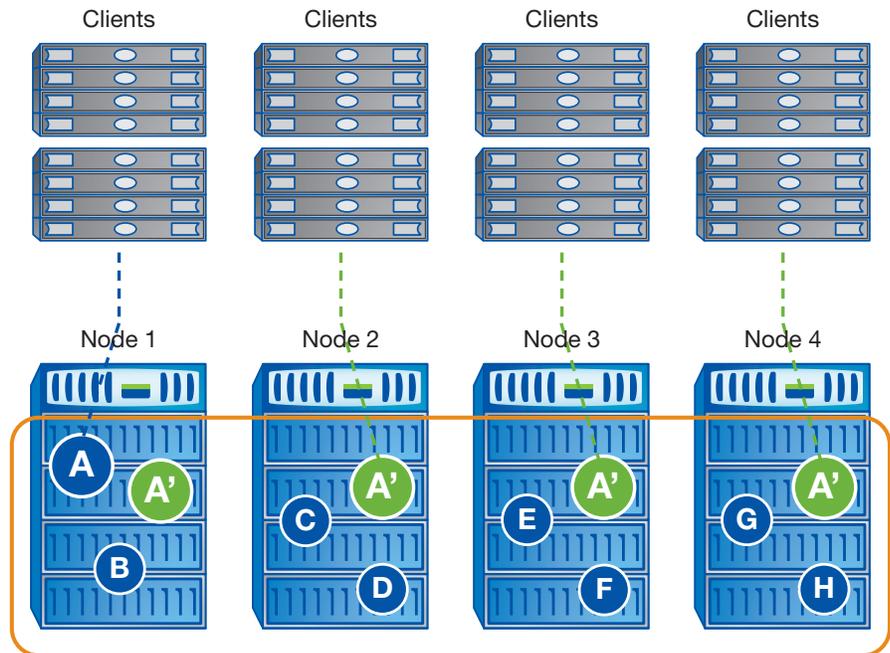


Figure 1) FlexCache software accelerates read access for high use volumes by caching "hot" data on other nodes in the cluster. Writes are passed through to the primary volume.

FlexCache software provides another opportunity for savings because only the data that is actually accessed by clients is moved to cache. As a result, the caching volume uses less storage than full replication since only read blocks are cached. This equates to significant cost savings when compared to alternatives that need full data copies to relieve storage bottlenecks.

Build Your Success on NetApp A range of solutions lets you decide what's right

NetApp FlexCache software addresses several problematic data access and data management concerns, such as frequent read bottlenecks, remote access support, and the effect of changing usage patterns on manually managed storage. You can deploy FlexCache software with NetApp FAS storage systems that can serve both primary storage and caching needs, or you can deploy FlexCache soft-

ware with NetApp V-Series systems to extend the benefits of FlexCache software to your heterogeneous storage running under Data ONTAP. If application performance requires you to move caching from shared systems to dedicated caching systems, you can cost-effectively deploy FlexCache software on a FAS system at a remote site.¹

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About NetApp

NetApp creates innovative storage and data management solutions that deliver outstanding cost efficiency and accelerate business breakthroughs. Discover our passion for helping companies around the world go further, faster at www.netapp.com.

Go further, faster®



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